



Adaptation to scientific and technological progress under Directive 2002/95/EC

Joint response from EICTA and AeA Europe, to the general and specific questionnaires

relating to exemption 22

31 March 2008

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General questionnaire

1. For which substance(s) or compound(s) should the requested exemption be valid?	Lead as impurity in RIG (rare earth iron garnet) Faraday rotators used in optical modules for fibre optic communications systems
2. What is the application in which the substance/compound is used for and what is its specific technical function?	The presence of lead in the RIG has no function; it is an impurity resulting from the garnet production process.
3. What is the specific (technical) function of the substance/compound in this application?	-
4. Please justify why this application falls under the scope of the RoHS Directive (e.g. is it a finished product? - Is it a fixed installation? - What category of the WEEE Directive does it belong to?).	NO 3 – IT and Telecommunications Equipment
5. What is the amount (in absolute number and in percentage by weight) of the substance/compound in:	
i) the homogeneous material;	1% as part of the homogenous material of the garnet
ii) the application, and	0,05mg (Each garnet has a weight of 5mg)
iii) total EU annually for RoHS relevant applications?	20g (The global market for garnets is estimated at 6Kg per annum. The EU-27 represent an estimated 30% of the global telecom market, therefor the total volume of garnets entering the EU per annum is 2Kg)
6. Please check and justify why the application you request an exemption for does not overlap with already existing exemptions respectively does not overlap with exemption requests covered by previous consultations.	<i>Not applicable – this is only for new exemption requests</i>
7. Please provide an unambiguous wording for the (requested) exemption.	Lead as impurity in RIG (rare earth iron garnet) Faraday rotators fibre optic communications systems until January 2010
8. Please justify your contribution according to Article 5 (1) (b) RoHS Directive whereas:	See http://circa.europa.eu/Public/irc/env/rohs_6/library?l=/stakeholders_comments/impurity_communications/10jan07_finalpdf/_IT_1.0_&a=d
<input type="radio"/> Substitution of concerned hazardous substances via materials and components not containing these is technically or scientifically	

<p>either practicable or impracticable;</p> <p><input type="radio"/> Elimination or substitution of concerned hazardous substances via design changes is technically or scientifically either practicable or impracticable;</p>	
<p><input type="radio"/> Negative environmental, health and/or consumer safety impacts caused by substitution are either likely or unlikely to outweigh environmental, health and/or consumer safety benefits thereof (If existing, please refer to relevant studies on negative or positive impacts caused by substitution).</p>	
<p>9. Please provide sound data/evidence on why substitution / elimination is either practicable or impracticable (e.g. what research has been done, what was the outcome, is there a timeline for possible substitutes, why is the substance and its function in the application indispensable or not, is there available economic data on the possible substitutes, where relevant, etc.).</p>	<p>As indicated in an earlier contribution – see link below – the consensus view of optical fibre optic communication system manufacturers is that the exemption will be needed until January 2010.</p> <p>http://circa.europa.eu/Public/irc/env/rohs_6/library?l=/stakeholders_comments/impurity_communications/10jan07_finalpdf/_IT_1.0_&a=d</p>
<p>10. Please also indicate if feasible substitutes currently exist in an industrial and/or commercial scale for similar use.</p>	<p>See answers to specific questions and http://circa.europa.eu/Public/irc/env/rohs_6/library?l=/stakeholders_comments/impurity_communications/10jan07_finalpdf/_IT_1.0_&a=d</p>
<p>11. Please indicate the possibilities and/or the status for the development of substitutes and indicate if these substitutes were available by 1 July 2006 or at a later stage.</p>	<p>While substitutes are available at the garnet level, they are not yet available at the subsystem (module) level, i.e. the second-but-last level in the supply chain. (Fibre optic communication systems are situated at the last level of the supply chain.)</p>
<p>12. Please indicate if any current restrictions apply to such substitutes. If yes, please quote the exact title of the appropriate legislation/regulation.</p>	<p>See answers to specific questions and http://circa.europa.eu/Public/irc/env/rohs_6/library?l=/stakeholders_comments/impurity_communications/10jan07_finalpdf/_IT_1.0_&a=d</p>
<p>13. Please indicate benefits / advantages and disadvantages of such substitutes.</p>	<p>See answers to specific questions and http://circa.europa.eu/Public/irc/env/rohs_6/library?l=/stakeholders_comments/impurity_communications/10jan07_finalpdf/_IT_1.0_&a=d</p>
<p>14. Please state whether there are overlapping issues with other relevant legislation such as e.g. the ELV Directive that should be taken into account.</p>	<p>There are no overlapping issues with other relevant legislation.</p>
<p>15. If a transition period between the</p>	<p>Manufacturers of fibre optic communication systems (but not all sub system/module suppliers) are</p>

<p>publication of an amended Annex is needed or seems appropriate, please state how long this period should be for the specific application concerned.</p>	<p>committed to and preparing for lead-free technology application by January 2010. A further transition period is not required. However, it is considered beneficial if the sunset date (i.e. the expiry date of the exemption) is published well in advance.</p>
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Specific questionnaire

<p>1. Please state the amount of lead used per application, the lead content in the homogeneous material, the annual production volume as well as the number of applications related to exemption 22 put on the EU market annually.</p>	<p>The amount of lead used per application (i.e. garnet) is 0,05mg, which is 1% as part of the homogenous material of the garnet. Each garnet has a weight of 5mg. The 27 EU member states represent an estimated 30% of the global telecom market. The global annual volume of garnets is 6kg. The total annual volume of garnets entering the EU is 2kg. The total EU market garnet related lead volume is 20g.</p>
<p>2. Please indicate the status of the qualification procedure and use of lead-free (below the maximum allowed level of lead) RIG Faraday rotators in fibre optic communication systems.</p>	<p>In January 2007 (*), fibre optic communication system manufacturers outlined the required qualification procedure in order to be able to provide lead-free technology based products.</p> <p>In the mean time significant progress has been made, and there clearly are garnet suppliers (i.e. 1st stage in the supply chain) and isolator suppliers (i.e. 2nd stage in the supply chain) that are at present able to provide laser diodes suppliers (i.e. 3rd stage in the supply chain) and optical module suppliers (i.e. 4th stage in the supply chain) with lead-free technology.</p> <p>Most laser diodes suppliers and some of the optical module suppliers have indicated that they are close to finalising or have finalised their qualification procedures.</p> <p>(*) http://circa.europa.eu/Public/irc/env/rohs_6/library?l=/stakeholders_comments/impurity_communications/10jan07_finalpdf/ IT 1.0 &a=d</p>
<p>3. In case you believe that the exemption can not yet be deleted, please justify in detail and present a roadmap specifying efforts, the milestones and the expiry date for a shift towards the use of lead-free (below the maximum allowed level of lead) RIG Faraday rotators in fibre optic communication systems.</p>	<p>As already argued in January 2007 (*), fibre optic communication system manufacturers will be able to provide lead-free technology based products from January 2010 onward.</p> <p>The laser diodes suppliers and optical module suppliers mentioned above have indicated that they are confident that the lead-free technologies they have been supplied with will work in their products and consequently indicated that they will be able to provide samples to fibre optic communication system manufacturers (last stage in the supply chain) between mid-2008 and early 2009.</p> <p>Upon receiving these samples fibre optic communication system manufacturers will be able to start their qualification procedures and, if successful, enable laser diodes suppliers and optical module suppliers to move towards full scale production of their parts using the lead-free technologies during the course of 2009.</p> <p>(*) http://circa.europa.eu/Public/irc/env/rohs_6/library?l=/stakeholders_comments/impurity_communications/10jan07_finalpdf/ IT 1.0 &a=d</p>
<p>4. What has changed since the last evaluation in 2006 ?</p>	<p>According to information currently available to optical fibre optic communication system manufacturers, there is now sufficient number of garnet suppliers that can supply lead-free technologies. This was not the case in 2006 and January 2007. However, this change only serves to confirm, first, the expectations and assumptions of optical</p>

	fibre optic communication system manufacturers as of January 2007 and, second, the roadmap that was provided by optical fibre optic communication system manufacturers at that time.
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